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Education research in sub-Saharan Africa: Quality, visibility and agendas

Rafael Mitchell, Pauline Rose, Samuel Asare

Abstract. This article combines large-scale bibliometric analysis of publications on education by researchers based in sub-Saharan Africa with researchers' accounts of their priorities and practice. Patterns in the thematic foci of the research from 48 countries in the region are considered from the perspective of international policy statements (the Education Sustainable Development Goal and the African Union's Agenda 2063), alongside analysis of funding, co-authorship and citations. We find a large number of publications by these scholars in reputable journals which merit greater scholarly engagement. Furthermore, evidence presented in this paper challenges claims about the dominance of Northern research agendas in sub-Saharan Africa.

Keywords: bibliometric analysis; education policy; education research; research funding; sub-Saharan Africa

Introduction

This article presents analysis of a database on education publications by researchers in sub-Saharan Africa with the aim of raising their visibility and potential to inform policy and practice in the region. The project was driven by a recognition that the work of African academics is often "overlooked and undervalued" in national, regional and international policy debates and decision-making (Maclure 2006). The African Education Research Database, which we introduce below, is an effort to redress this.

The article opens with a review of what has been found previously about education research by scholars in the region with respect to its quality, visibility and whose agendas are reflected in the work undertaken. We then explain the development of the database and the methods used in this study. Finally, we report patterns identified through the bibliometric analysis of 3067 studies in the database alongside an analysis of interviews with 30 African-based researchers aimed at hearing accounts of their priorities in the context of their work. The article concludes with reflections on the quality, visibility and whose agendas are identified in research within sub-Saharan Africa.

What is known about the quality, visibility and agendas of education research from sub-Saharan Africa?

While there are no previous comprehensive reviews of education research publications by researchers in sub-Saharan Africa, some inventories of education research have been undertaken for parts of the region. For example, reports are available on West and Central Africa (Maclure 2006), Francophone countries (Bonini et al. 2015), and specific national contexts, such as Guinea-Bissau (da Silva & Oliveira 2017) and South Africa (Wolhuter 2011). Recurrent themes identified in these studies are *quality*, *visibility* and the issue of whose *agendas* are reflected.

The *visibility* of scholarship from sub-Saharan Africa is mediated by the enduring legacy of colonialism, or the “postcolonial condition” (Tikly 2019). Previous research has shown that global systems and hierarchies of academic knowledge production are dominated by academics and publishers based in the global North, which position African research as a peripheral concern (Hountondji 1997; Collyer 2018). The dominance of Northern researchers in academic publishing occurs even in fields such as African Studies, where articles by African-based scholars are less likely to be accepted for publication and less likely to be cited (Briggs & Weathers 2016). Recognition of these conditions in the field of international and comparative education has prompted initiatives to increase the number of publications by Southern researchers in international journals (Lillis et al. 2010; Trahar et al. 2019), and provided the impetus for the African Education Research Database project.

Those involved in previous efforts to catalogue education research from Africa have found the evidence base fragmented across a wide range of outlets (Bonini et al. 2015). Historically, many of these publications existed only in hard copy with limited circulation beyond issuing institutions (Maclure 2006; Marfo et al. 2011). In recent years this picture has been changing, with research increasingly available digitally. For example, 177 institutions in the region are now included in the global directory of open access repositories, OpenDOAR. Even so, there is no central location for accessing this evidence base.

With respect to research *quality*, there is debate over how this may be judged. Evaluative frameworks in the North, such as the UK’s Research Excellence Framework (REF) have been criticized by some for valuing scientific merit over social impact, which may not be universally applicable or desirable (McLean & Sen 2019). Bradley (2017) notes that Southern scholars are often motivated by a desire to undertake research with a “direct and immediate impact in their own contexts” (p. 55). For example, An-Na’im (2006) identifies:

[an] urgent need for socially engaged scholarship...It is unacceptable for an African scholar to devote her or his whole attention to detached academic analysis without attempting to respond to the urgent needs. (p. viii)

The “Research Quality Plus” framework (RQ+) produced by Canada’s International Development Research Centre is an effort to account for the *social* alongside the *scientific* value of research (Ofir et al. 2016). An exercise which used RQ+ to evaluate 170 Canadian-funded studies in the Global South found Southern research superior to Northern research by these criteria (McLean & Sen 2019), leading the authors to conclude that “[w]hen a problem is local, locals appear best placed to address it” (p. 133).

Nevertheless, studies of education research in sub-Saharan Africa highlight constraints to conducting high-quality research at the level of human, material and financial resources. Universities are increasingly reliant on early career members of faculty with heavy teaching responsibilities (Sehoole & Ojo 2015; Fussy 2018). Access to the latest research is undermined by inadequate computer and network systems, unstable power supplies, and limited capacity to pay for subscription content (Marfo et al. 2011). Some commercial publishers have sought to mitigate the latter through low-cost or affordable access

schemes, but the impact on usage is difficult to determine.¹ In some cases, academic incentive systems themselves can undermine concerns for quality. For example, in Nigeria and other contexts where researchers are rewarded for the quantity over the quality of their outputs, the rise of pay-to-publish predatory journals has led to a proliferation of articles of little scholarly value (Omobowale et al. 2014; Xia et al. 2015).

The final issue in relation to research from the region is that of whose *agendas* are reflected. This question arises in the context of the structural imbalances in academic knowledge production mentioned above. The dearth of local funding opportunities in sub-Saharan Africa has been said to stifle independent research based on local priorities (Ishengoma 2017). Where research is funded by, or conducted in partnership with, Northern-based funders or academics, numerous studies have reported the latter determining the foci or design of research (Barrett et al. 2011; Bradley 2017; Pilon & Lanoue 2016). This has led, it is argued, to research which is driven by external agendas (Pilon & Lanoue 2016) and “dislocated from national contexts” (Maclure, 2006, p.82). Attempts to mitigate this have included the Dutch government’s demand-driven research partnerships of the 1990s (Bradley 2017), and more recently the UK’s Global Challenges Research Fund (GCRF), which explicitly calls for shared agenda setting and “equitable relationships between UK research institutions and developing country partners” (GCRF 2017, p.1).

Nevertheless, the *direct* influence of Northern-based actors and agencies is only one means by which external forces may shape research in the South. World systems and decolonial scholars draw attention to the indirect influence of wider histories, politics and ecologies of knowledge production and dissemination (Demeter 2019). Hountondji (1997) draws on world systems theory to explain how research in “peripheral” African countries is scientifically dependent on the theoretical work of academics in “core” countries. Lamenting the “howling absence of theoretical work” (p.2) from sub-Saharan Africa, Hountondji identifies a tendency towards “scientific extraversion”, whereby African scholars ground their research in the frameworks of scholars from the former colonial powers – effectively, serving as local data collectors in service to Northern intellectual projects. These core-periphery relations in global social science are evidenced through recent bibliometric analysis which indicates that emulating and modelling Eurocentric theories and methods are key means through which scholars in the periphery legitimize their work and accrue international academic capital (Demeter 2019). This supports the work of decolonial scholars such as Mbembe (2016) who has argued that African universities are fundamentally *Western* institutions:

in the sense that they are local instantiations of a dominant academic model based on a Eurocentric epistemic canon... [that] attributes truth only to the Western way of knowledge production. (p.32)

The implications of the above for exploring the agendas of education research in sub-Saharan Africa are, firstly, the need for sensitivity to the potential direct influence of external funders and academic collaborators; and secondly, recognition that even in the absence of such direct influence, the dominance of Northern perspectives and concerns in

¹ Personal communication, International Network for the Availability of Scientific Publications (INASP), 14/05/19.

global systems of academic knowledge production may exert an indirect influence on research which is conducted, regardless of its geographical provenance.

The issues of visibility, quality and agendas notwithstanding, there has been strong growth in the quantity of research outputs from sub-Saharan Africa over the last 20 years (Cloete et al. 2015). Our article explores patterns in the provenance, thematic foci and funding of education research in the region, alongside researchers' own accounts of their priorities. The article concludes with implications for researchers, policy actors, and others involved in conducting, coordinating and using research.

Methods

The analysis presented in this paper draws on two main sources: publications included in African Education Research Database, and interviews with researchers based in sub-Saharan Africa. The database was developed by the authors in response to the challenges discussed above with respect to the visibility of education research from the region. In 2017 the Research for Equitable Access and Learning (REAL) Centre at the University of Cambridge partnered with the charity Education Sub-Saharan Africa (ESSA) to produce the African Education Research Database, an inventory of publications by sub-Saharan African researchers (Rose et al. 2019). In terms of geography, research outputs from 48 countries were systematically included, covering all countries within the World Bank (n.d.) classification of sub-Saharan Africa with the addition of Djibouti and exception of South Africa.² In deciding which publications to include, we were aware of the importance of unpublished studies, such as those resulting from higher degrees; however, given the project aim of raising the profile of research from the region, the decision was taken to focus limited resources on studies which would be recognized as of quality internationally by virtue of the peer-review process.

The search was conducted systematically in accordance with a protocol (Mitchell & Rose 2018) to identify: (a) social science research with (b) implications for education policy and practice (c) conducted by sub-Saharan-African-based researchers. To foreground research likely to be of relevance to current policy and practice, we limited the search to the period 2010-2018, and considered outputs in relation to international and regional policy statements: the Sustainable Development Goal for Education, the Continental Education Strategy for Africa (CESA 16-25) and Agenda 2063 (African Union 2015, 2016).

The main elements of the literature identification process were: structured searches of academic databases, expert consultation, and pearl-growing (i.e. reference searching). Searches of Scopus and Web of Science were conducted using the terms 'education' and 'school' in English, French, Spanish and Portuguese. The search was repeated in specialist Portuguese language databases, but not for other languages.³ Results were limited to publications authored or co-authored by researchers based in the region. Since the search

² South Africa was excluded from database searches as this country is not affected by the same challenges as others in the region in terms of scope and visibility of publications. Preliminary analysis revealed a markedly different research landscape in South Africa, with 3.5 times more outputs than Nigeria, the second most prolific country. For recent work in this area, see Wolhuter (2011).

³ Rui da Silva (Centre of African Studies, University of Porto) identified 391 studies through structured searches of Repositórios Científicos de Acesso Aberto de Portugal (<https://www.rcaap.pt/>) and Biblioteca Digital Brasileira de Teses e Dissertações (<http://bdtd.ibict.br/vufind/>).

terms yielded a number of false positives, all titles and abstracts were checked for eligibility by hand. For each eligible study, details were recorded in an Excel spreadsheet, including: author, affiliation, publication type, country of focus, research methods, citations, and funding. Publications were catalogued manually with up to 8 keywords using a controlled vocabulary set of 128 terms developed inductively in the initial months of the cataloguing process with reference to the Education Resources Information Center (ERIC) and British Education Index thesauruses.

An online version of the database launched in June 2018 with regular updates based on the ongoing process of literature identification described above. As such, the dataset on which the bibliometric analysis in this article draws reflects the publications in the database at the time of writing, namely, 3067 studies, identified through academic databases (91%), expert consultation (5.4%), and pearl-growing (2.4%), which were catalogued between July 2017 – February 2019. The majority of these publications are articles (81%), with the remainder comprising chapters (8%), conference papers (6%), and other academic outputs.

Alongside this dataset, interviews with 30 researchers based in the region were conducted to elicit their priorities for research and experiences of funding, partnerships and impact. Researchers from Botswana, Burkina Faso, Cameroon, Ethiopia, Ghana, Kenya, Liberia, Malawi, Niger, Nigeria, Senegal, Tanzania and Uganda participated in the interviews (Table 1).

Table 1 Interviewees

Category	Number of participants
Gender	21 Male, 9 Female
Experience	16 Early-career, 14 Senior
Affiliation	15 University, 6 University-affiliated research center, 5 Independent research center, 4 Governmental or NGO
Location	13 East Africa, 12 West Africa, 5 Southern Africa

In selecting participants, we sought to include a range of perspectives in terms of gender, location and institutional setting and some of the more prominent researchers identified through work on the database. As such, this is not a representative sample of researchers in the region which can be used as the basis for statistical generalizations, but one skewed towards more senior academics whose accounts can offer insights informed by experience in the field. Ethical approval for the study was granted by the Faculty of Education, University of Cambridge, subject to steps to protect the identity of participants, including the anonymization of interviewees and their affiliations. Interviews were transcribed and analyzed using Atlas.ti. In this article we draw on the interview transcripts to contextualize the bibliometric findings and report on systematic analysis with respect to research agendas. Quantifiers are used to indicate the prevalence of a view within the interview data, and highlight patterns and variations within the dataset.

Findings

This section addresses three themes raised in the literature, namely: the quality of education research from sub-Saharan Africa, its visibility, and whose agendas are reflected.

i) Quality

The literature search identified a sizeable quantity of education research publications from sub-Saharan Africa (Table 2). More populous Anglophone countries tend to dominate the rankings in terms of quantity of publications; the combined outputs of Nigeria, Ghana and Kenya represent almost 45% of the total. Countries with fewest publications include Somalia, Chad and Central African Republic, each of which have experienced conflict in recent years. Populous Francophone countries such as Democratic Republic of the Congo have fewer outputs than might have been anticipated based on size, and Francophone research is likely to be underrepresented in the dataset given the lack of a search of specialist French language databases. Nevertheless, a previous inventory of education research in Francophone Africa, including publications by researchers based outside the region (beyond the scope of our analysis), identified only 279 articles over the period 2000-2013 (Bonini et al. 2015). This suggests that even had specialist databases been consulted, the general pattern may not have differed so greatly. Another caveat is that, since specialist Portuguese language databases were included in the search, research from Lusophone countries is, in a sense, “over-represented.” Rather than excluding data from Angola, Cape Verde, Guinea-Bissau, Mozambique, São Tomé and Príncipe from Table 2 on the grounds of incomparability, these countries have been included to permit comparison between Lusophone countries.

Table 2 Country of research focus

	Country	# of studies	% of total studies (n = 3067)	# of peer-reviewed articles (n = 2496)	% of peer-reviewed articles in reputable journals (n = 2037)
1	Nigeria	704	23%	634	65.3%
2	Ghana	301	9.8%	265	93.5%
3	Kenya	295	9.6%	264	84.8%
4	Mozambique	260	8.5%	190	N/a ⁴
5	Tanzania	174	5.7%	153	96.7%
6	Uganda	169	5.5%	144	99.3%
7	Botswana	145	4.7%	123	92.6%
8	Ethiopia	137	4.5%	126	93.6%
9	Zimbabwe	136	4.4%	127	85.8%
10	Angola	109	3.6%	56	N/a
11	Cape Verde	80	2.6%	9	N/a
12	Malawi	67	2.2%	59	93.2%
13	Mauritius	48	1.6%	42	76.2%

⁴ Since impact factor calculations systematically disadvantage publications in languages other than English (González-Alcaide et al. 2012) information in this table has been limited to countries where English is a dominant language of scholarly communication, for the purpose of comparison.

14	Zambia	45	1.5%	32	96.8%
15	Namibia	44	1.4%	36	91.6%
16	Cameroon	40	1.3%	33	96.9%
17	Rwanda	36	1.2%	30	100%
18	eSwatini	25	0.8%	23	86.9%
19	Lesotho	23	0.7%	19	100%
20	Sudan	22	0.7%	12	100%
21-26	Burkina Faso, Burundi, Democratic Republic of the Congo, Guinea-Bissau, Senegal, Madagascar, Mali	<20	<0.7%	N/a	N/a
27-37	Benin, Côte D'Ivoire, Eritrea, Gambia, Liberia, Niger, São Tomé and Príncipe, Sierra Leone, South Sudan, Togo, Somalia	<10	≤0.3	N/a	N/a
38-48	Central African Republic, Chad, Comoros, Djibouti, Equatorial Guinea, Gabon, Guinea, Mauritania, Republic of the Congo, Seychelles	<5	≤0.1%	N/a	N/a
Total		3219 ⁵		2496	

Alongside variations in the quantity of publications, our analysis indicates marked disparities in the *quality* of research, as judged by the percentage of peer-reviewed articles appearing in ‘reputable’ journals (right hand-columns, Table 2). In evaluating journal quality we erred on the side of inclusion, and categorized as reputable all of those which are national, regional or international in remit – and in the latter case, with an impact factor of at least 0.2 based on SCImago data. Journals identified as predatory⁶ and those with questionable standards of review were categorized as *not* reputable. As such, these figures do not reflect judgements of the quality of individual articles, but of their host publications.

Overall, the majority of articles (82%) appear in reputable journals. In Lesotho and Rwanda, which have few publications overall, this figure is 100%. For many countries with a high volume of outputs this figure is around 90%, including Uganda, Tanzania, Ghana and Ethiopia. Several interviewees referred to the rise of predatory journals, which were seen as something to avoid – “if one is not careful you can end up sending a paper there” (*Male researcher, Kenya*).. An Ethiopian researcher reported that his institution offers financial incentives for publications in national or international journals, but:

⁵ The 3067 studies in the dataset include 100 multiple country studies, and 109 studies which do not focus on a named country, but a region (e.g. Southern Africa).

⁶ For example, using Beall’s List of Predatory Journals and Publishers (<https://beallslist.net/>).

It has to go through scrutiny on the impact factor...and the reputability of the journal. If it's not reputable it will not be awarded; it's not eligible...So if you send your article to India – there are so many predatory journals: that doesn't count.
(Male researcher, Ethiopia)

Conversely, we see that over one-third of Nigerian articles appear in journals which lack conventional standards of peer-review, some containing spelling or grammatical errors in the title. As noted already, promotion practices in this context reward quantity over quality in academic publishing (Omobowale et al. 2014; Xia et al. 2015) which may disincentivize the production of high-quality research. Researchers from elsewhere raised the poor reputation of research in this context:

Unfortunately within Nigeria...you'll find that every university has a journal. And some *people* have their own journals...We had one professor from Nigeria at [our] university [who] had that kind of journal. I had to say to him: "*Look, stop this...You can't have a journal running like that. Who is the publisher?!*" (Male researcher, Botswana)

A senior Nigerian researcher reported what she regarded as "a massive capacity gap" at universities in her country, which was anomalous in the African context:

Whereas in a lot of other [African] countries...[valuable] evidence is produced and generated within the four walls of the university...very often it doesn't happen that way [in Nigeria]...You will find that lecturers in universities...[do] not have a practical understanding of what it means to actually develop a survey. (Female researcher, Nigeria)

Without attaching undue weight to this sole account, it does suggest factors beyond the academic incentive system which may have a bearing on the quality of publications.

ii) Visibility

The visibility of publications in the database was explored using citation data as a measure of scholarly engagement. The citation count for each study was recorded at the point of cataloguing using data from Google Scholar, which has the most inclusive coverage (Martin-Martin et al. 2019).

To some extent, citation data support claims in previous studies that research from the region is "overlooked and undervalued" (Maclure 2006). Globally it is estimated that around 68% of social science studies are cited once-or-more within five years of publication (Larivière et al. 2009); for studies in the database the figure is 54% (for the year 2014). It is higher for outputs in reputable publications (60%) compared to those which are not (39%). Similarly when we look at the citation rate for all publications in the database (calculated by dividing the total citations by the number of studies), outputs in reputable publications have a citation rate of 4.1 compared to 1.0. However, as discussed below, citation rates also vary according to the phase of education studied, the methods used, and whether or not the publication results from collaboration with researchers based outside the region.

The most common research methods in the database are quantitative (34.5%), followed by qualitative (30.9%), reviews (15.1%) and mixed methods (12.8%). In terms of scholarly engagement, quantitative research receives most attention, with a citation rate of 5.4 per publication, followed by reviews (5.3), mixed methods (4.7) and qualitative research (4.3), which is broadly consistent with citation patterns across the social sciences (Antonakis et al. 2014).

In line with previously-discussed arguments about the (in)visibility of African research, we found that publications co-authored with researchers based *outside* the region were significantly more likely to be cited, having an average 9.7 citations per publication, compared to 3.8 for those not involving such collaborations. The ‘citation bonus’ for publications resulting from international collaboration has been noted previously in relation to research from Africa (Confraria et al. 2018) and elsewhere in the world (Wuchty et al. 2007).

The focus of the research was also associated with differential levels of scholarly engagement. Although research in higher education was most prevalent (31.5% of studies in the database), publications on this topic had a low citation rate (3.8) compared to primary (6.7) and secondary education (5.3) (Table 3). Far fewer studies focused on either early childhood education or college education (i.e. diploma-awarding, vocationally oriented institutions), and these had a similarly low citation rate. We return to this issue in the following section.

Table 3 Citations by phase of education

	% of studies receiving ≥1 citations	Citation rate
Primary education (n = 875)	51.8%	6.7
Secondary education (n = 878)	51.7%	5.3
Adult education (n = 130)	44.6%	4.5
College education (n= 59)	64.4%	3.8
Higher education (n = 965)	43.3%	3.8
Early childhood education (n = 98)	43.9%	3.6

iii) Whose agendas?

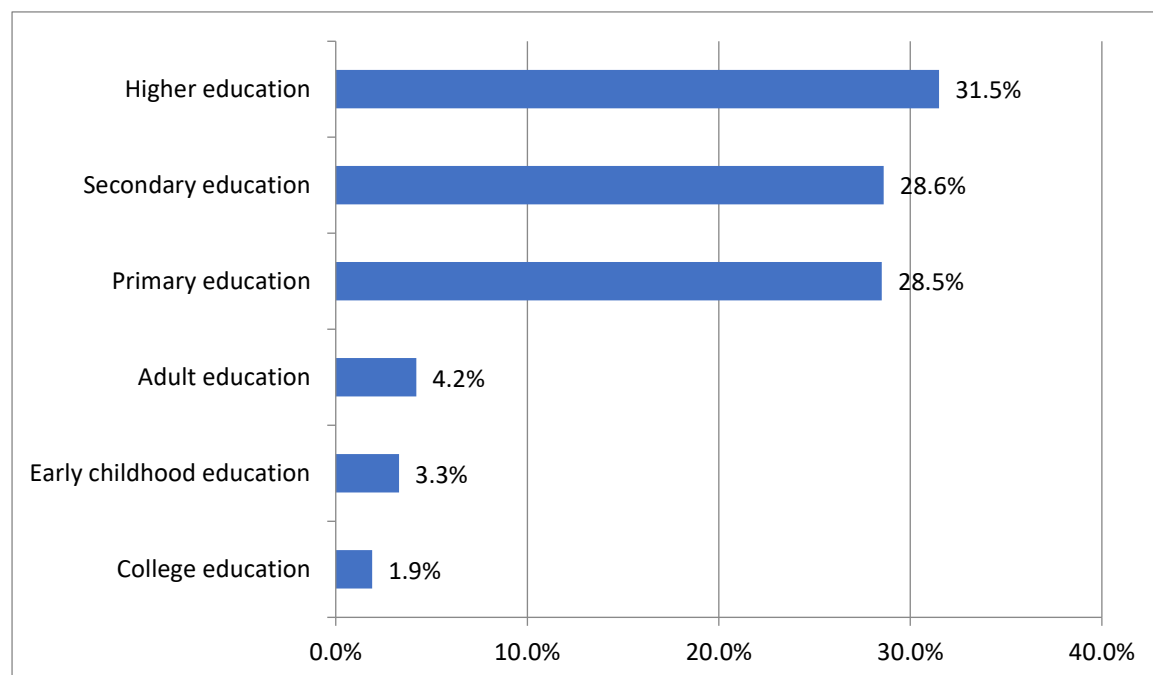
How does research relate to global and regional agendas?

Through analysis of the database we sought to establish *what* research was being conducted and the extent to which this aligned with global and continental policy

statements such as the Millennium and Sustainable Development Goals (MDGs, SDGs) and African Union’s CESA 16-25 and Agenda 2063 (African Union 2015, 2016). If the priorities of global and continental policy statements are conceived in terms of those targets which are, at present, furthest from achievement, then expansion and improvement of early childhood and primary education emerge as clear areas for development. Early childhood education emerged as a matter of global policy concern with the SDGs, and it is estimated that only 20% of the relevant age cohort in sub-Saharan Africa currently access this phase of education (African Union 2016). Another target far from fulfilment is ensuring that “all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes” (SDG 4.1). Serious challenges remain to universal primary enrolment (Ampiah & Adu-Yeboah 2011) and completion (Abuya et al. 2013; Ahmed & Dawit 2015; Molosiwa & Boikhutso 2016; Sunny et al. 2017), as well as the adequacy of learning outcomes (Mugo et al. 2015).

To explore the thematic foci of research in the database, each study was catalogued with up to 8 keywords using a controlled vocabulary set. Figure 1 shows the percentage of publications addressing different phases of education.

Figure 1 Percentage of research outputs by phase of education



As noted previously, higher education is the focus of the greatest quantity of publications, despite receiving low levels of scholarly engagement as measured by citations. The emphasis placed on this phase is, perhaps, unexpected given the global and continental priorities mentioned earlier, and the fact that university students comprise less than 2% of the total student population in the region (Ilie & Rose 2018). However, given the limited research funding available and the professional expectation that academics engage in research and publishing, studying one’s own institutions may be a pragmatic response to achieving these ends with minimal resource implications.

Primary and secondary education are each the focus of around one-quarter of studies in the database, while early childhood education is an area of comparative neglect, reflecting its only recent inclusion in the global education agenda.

A closer look at thematic areas

To explore the substantive foci of publications in greater depth, keywords were grouped into eight thematic areas (Table 4) to show, in broad terms, the intensity of research across different topics. As a single publication tends to address multiple topics, the percentage of studies across thematic areas exceeds 100.

Table 4 Overview of research outputs by thematic area

Thematic area	# of studies	% of total	Top keywords (# of studies in brackets)
Language & Curriculum	1343	47.8%	Science education (188) African languages (184) Curriculum reform (165)
Teachers & Teaching	1161	41.3%	Teaching methods (478) Teacher education (418) Teacher knowledge & skills (264)
Policy & Financing	781	27.8%	Education policy (288) Policy implementation barriers (109) National development (106)
Equitable, Inclusive Education	743	26.4%	Gender disparities (201) Inclusive education (158) Disability (131)
Institutional Leadership, Culture & Facilities	715	25.4%	Infrastructure (207) Leadership and management (192) Community participation (113)
Students, Learning & Assessment	587	20.9%	Learning outcomes (210) Student motivation (192) Assessment (136)
ICT	495	17.6%	ICT in education (452) E-learning (166) Learning using mobile phones (48)
Access to Education	404	14.4%	Access to education (157) Distance education (105) Drop-out (71)

Almost half the studies relate to **Language & Curriculum**. In this thematic area, *African languages* (184 studies) and *Language of instruction* (162 studies) receive particular attention, as does the process of *Curriculum reform* (165 studies). In terms of curriculum areas, *Science* (188 studies) and *Mathematics* (134 studies) are emphasized, which is

consistent with CESA 16-25. One surprise was that *Health education* (156 studies) received more attention than *Literacy* (115 studies).

Teachers & Teaching is the second-largest area, with *Teaching methods* (478 studies) receiving more attention than any other keyword in the database. Pedagogical reform has been a major priority for donor and funding agencies over the past three decades (Tabulawa 2013) which may account for the preponderance of studies in this area. Notably, only 39 (8%) of these studies attend to student learning outcomes, which is an indication of the weak evidence base linking teaching methods to learning in sub-Saharan Africa (Guthrie 2018; Mitchell 2019). One interviewee commented:

There is notoriously very little evidence produced by African academics or scholars on learning levels of children. You know, which is systematically produced, which is rigorous, which is meaningful, which is useful. (*Female researcher, Nigeria*)

Over one-quarter of publications focus on **Equitable, Inclusive Education**, which includes evidence relating to disadvantaged groups: *Gender disparities* (201 studies), *Disability* (131 studies), *Poverty* (112 studies) and *Ethnicity* (86 studies). The **Access to Education** thematic area includes research on *Student attendance* (43 studies), *Drop-out* (71 studies) and *Out-of-school* children (25 studies). *Progression and repetition* (18 studies) receives quite limited attention, despite being an issue of particular importance for disadvantaged groups, such as children with disabilities and first-generation school-goers (Tassew et al. 2017).

With respect to **Institutional Leadership, Culture & Facilities**, significant attention is directed towards *Leadership and management* (192 studies) and *Community participation* (113 studies). A small but growing evidence base relates to *Water, sanitation and hygiene* in schools (19 studies), identified as an issue of particular importance in relation to female students' attendance (Kipchumba & Sulaiman 2017). The second-most common keyword in the database is *ICT in education* (452 studies), the emphasis on which may be questioned, given that three-quarters of rural schools in the region do not have electricity (UNESCO 2017).

In the **Policy & Financing** thematic area, *Government spending* is the focus of 102 publications, including studies exploring the equity of resource allocation (Akaguri 2014; Appleford et al. 2015). Research in this area is important for progress towards the goals of 'equitable' provision (SDG4) and universal completion of basic education (Agenda 2063).

External versus local research agendas

As discussed, the influence of Northern agendas on research in the region is a recurrent refrain in the literature – whether directly, through the actions of funders and academic collaborators (Bradley 2017; Ishengoma 2017); or indirectly, through Northern dominance of global knowledge systems (Hountondji 1997; Mbembe 2016). The latter, while important, is beyond the scope of the present study, and so we concentrate on the former.

Starting with researchers, we found that one quarter of publications in the database resulted from collaborations with Northern-based researchers. Of the researchers interviewed, 22 had participated in such collaborations: 15 (68%) said they had engaged in a

process of shared agenda-setting, while seven (32%) reported that Northern researchers had dominated the partnership, establishing the research focus and design. In the latter category were four researchers with limited past research experience who were happy to receive direction, while the other three were senior academics who reported dissatisfaction at the lack of consultation. For example, a senior researcher from Ghana noted:

The whole idea had been conceptualized, the proposal had been written, the grant had been won, before these things got to us...So we [got] drawn into somebody [else's] interest. (*Female researcher, Ghana*)

In short, while we did find evidence of Northern academics imposing their own research agendas, these extractive relationships were not the dominant form of South-North partnership; and furthermore, most studies from the region take place outside any such collaborative arrangements.

Turning to funders, only 10% of publications in the database identified a funding source. This information was harvested manually, directly from publications rather than from academic databases' records, which have their own limitations (Kozma et al. 2018, p.41); nevertheless, it is still likely that this figure understates the actual proportion of funded studies, since not all publishers require disclosure of funding. Nevertheless, it does indicate that most education research in the region is unfunded.

With respect to the influence of funders, many interviewees reported funders' tendency to specify the thematic foci of research they would sponsor. Comparison of funded and unfunded research within the database (Table 4) reveals patterns in the thematic foci which may be indicative of funders' priorities. The most notable differences are that funded research is more than twice as likely to focus on primary education, and considerably less likely to focus on higher education. Secondary education has a similar proportion of publications for both funded and unfunded research, while early childhood and adult education receive very little attention, whether funded or unfunded. This pattern of funding is consistent with the emphasis given to primary and secondary over adult and higher education by international organizations in the MDG era (Tabulawa 2011).

Table 4 Funded and unfunded research by phase of education

	Funded research (%) (n = 324)	Unfunded research (%) (n = 2743)
Early childhood education	2.5	3.3
Primary education	56.2	25.3
Secondary education	26.9	28.8
Higher education	19.8	32.8
Adult education	4.9	4.2
College education	0	2.2

Nevertheless, it would be wrong to interpret the greater thematic focus on primary education in funded work as a straightforward imposition of foreign agendas. Only one interviewee, a senior academic based in Malawi, felt that her work was "mostly driven" by

funders' agendas. The more common view was that funded research reflected a convergence of funders' and researchers' concerns, or mutuality of interests, as illustrated in the following quotations:

[Funders' agendas] are things that you can relate with, that are [already] *there* in your strategic plan. So...you are also achieving your strategic plan while doing that work. (*Male researcher, Kenya*)

[If] calls for research proposals...relate to my profession and my expertise and capacity then I apply...If they are outside [that], I don't. (*Male researcher, Ethiopia*)

In general, interviewees expressed an unwillingness to participate in projects unrelated to their research interests. Some reported entering negotiations with funders to achieve greater alignment with their own priorities:

We very often get approached by different types of organizations around the world to support them in their work using research. We accept these briefs if they *align* with our own interests...[We also] sit down with the client or partner and find out if there's a little bit *more* that we can do as well. This has led to [addressing topics]...which were not originally part of [their] discourse. (*Female researcher, Nigeria*)

We have in most cases...disappointed individuals that have come here and said: "*Look here, we have this money. We want to do ABCD.*" And we have said: "*No, it's not in our interest. If you want to work with us, here are the areas that are of interest to us.*" (*Male researcher, Malawi*)

Beyond the capacity of individual researchers, the profile of African institutions is a decisive factor in such negotiations (Bradley 2017, pp.63-66). Amongst the researchers we interviewed, those affiliated to institutions with a low international profile had limited success in securing external funding to address issues of local concern, outside the kinds of collaborations with Northern researchers discussed above. Conversely, high-profile institutions regularly secure external funding to conduct research based on local priorities, as a senior Kenyan researcher explained:

[Foundation 1] has been a very good partner...They will fund a program of work within education, so you go and define that...They don't dictate [it]...[Foundation 2] looked at our profile and said: "*You people look like you are doing education research...We have some funding, so why don't you design a study and tell us what you want to do?*" They did not [say]: "*This is what we want you to do*" – No. That's one of the reasons why that study came out so well. (*Male researcher, Kenya*)

Although this degree of autonomy is unusual, it does not mean that researchers in the region are largely beholden to funders' agendas. Indeed, as the bibliometric analysis demonstrates, most education studies take place *outside* partnerships with external funders and researchers. All university-based academics we interviewed had undertaken independent, unfunded research. One reason for this may lie in academic incentive systems. While grant capture is an increasingly common expectation for academic promotion in

Northern universities (Musambira et al. 2012), this is not widely the case in sub-Saharan Africa. Amongst interviewees, publication was most commonly mentioned basis for career advancement.

The extent to which research agendas are coordinated at the institutional level appears to vary by organizational type. Researchers based in research centers tended to describe their activities in relation to organizational priorities and plans, while those based in universities tended to report limited direction in terms of what they study. Across both settings, researchers tended to express a desire for their research to promote positive changes in policy and practice, either through working directly with teachers, principals and other institutional stakeholders, or else through informing decision-making processes at regional or national levels. However, the extent to which researchers were aware of policy actors' needs for evidence appears to vary widely within the region. For example, all six interviewees based in Ethiopia were familiar with their government's thematic priorities for education; internal research funding within universities is linked to this. Conversely, elsewhere, some researchers expressed uncertainty about policy actors' evidence concerns. For example, a Malawian researcher explained:

One of our [institutional] mandates...is to advise government through the Ministry of Education...[But] unfortunately...[they] have never come to us and said: *"Guys, we would like you to [research a particular topic]."* The Ministry [is] supposed to...say: *"Focus on these areas. These are our areas of interest."* [Instead,] we have picked some of the interventions from government policies, and we have gone to the same government and said: *"The government policy says this, and we think we can support this by doing ABCD."* And they have said: *"Oh yeah, please go ahead."* But they have never said: *"Look here, we've come up with this policy, and we want to influence the way you conduct your business."* (Male researcher, Malawi)

Although national audiences are of principal concern, some researchers also mentioned the importance of wider constituencies. For example, a Nigerian researcher highlighted the value of global policy debates:

We're very, very keen to have some of the insights that we're... finding [locally to] be shared on the global scene. We think it's really important for us to do that, because very often our domestic policy is actually shaped by the international context...So it's really important that that data is able to feed into the global space. (Female researcher, Nigeria)

Again, the desire for local improvement appears to be the motivation for bringing evidence to international arenas.

Discussion and conclusion

This article has provided an overview of the education research landscape in sub-Saharan Africa, including the quality and visibility of this work and the agendas it reflects.

With respect to quality, the desire of researchers to inform policy and practice in their countries, communities and institutions is consistent with recent developments in research

evaluation such as the RQ+ framework which considers social impact alongside more traditional “science-centric” notions of quality (Ofir et al. 2016). That said, evidence from this study does suggest a trade-off between quantity and quality in some cases, with the most prolific country in the database, Nigeria, publishing over one-third of its articles in predatory journals. As reported, in other contexts screening mechanisms at the institutional level may incentivize concern for the quality over the quantity of publications.

With respect to visibility, the bibliometric analysis provides statistical evidence which supports claims in previous studies about the poor visibility of education research from sub-Saharan Africa. Overall research from the region receives below-average scholarly engagement as measured by citation data. However, we present a more nuanced picture, with some publications receiving greater attention than others – most notably, those focusing on primary or secondary education, or resulting from international collaborations with researchers based outside the region.

This analysis confirms the value of efforts to raise the visibility of African scholarship, including publishers such as CODESRIA and African Journals Online, and blogs such as those of *Association for the Development of Education in Africa* (ADEA) and LSE’s *Citing Africa* (El Kadi 2019), as well as the African Education Research Database itself. Our findings support calls from researchers around the world to “commit to reading, citing and highlighting” research from sub-Saharan Africa (Thomas 2018, p. 293).

In terms of whose agendas are reflected in the research, our analysis identifies scope for greater alignment with global and regional agendas. Early childhood education emerges as an area for further attention. Although primary and secondary education are better represented in the database, studies linking teaching practices to student learning across these phases is also under-researched, given the considerable interest and investment in teacher education by governments, donors and NGOs alike.

The notion that education research in sub-Saharan Africa is dominated by external agendas through inequitable funding and collaborative relationships (Maclure 2006; Pilon & Lanoue 2016; Bradley 2017) requires some modifications in the light of this analysis. Although funding is generally tied to issues of donor concern, and research collaborations can be dominated by Northern partners, these circumstances are not universally the case, and more often research appears to reflect issues of mutual concern. These issues of mutual concern are no doubt influenced, but not determined by, the global academic knowledge systems in which we, as UK-based researchers, and you as readers of *CER*, are also operating. For these reasons, we should continue challenging Eurocentric biases within the field, while recognizing the wider body of education research from sub-Saharan Africa as an expression of the agency and agendas of researchers in the region.

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